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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,699	06/26/2003	David Meiri	EMS-05901	5034

7590 08/23/2006

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EXAMINER

CAMPOS, YAIMA

ART UNIT	PAPER NUMBER
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2185

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/606,699	Applicant(s) MEIRI ET AL.	
	Examiner Yaima Campos	Art Unit 2185	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/15/06</u> . | 6) <input type="checkbox"/> Other: _____  |

1. The examiner acknowledges the applicant's submission of the amendment dated June 8, 2006. At this point claims (1-2, 4-5, 10-11 and 13-14) have been amended, and no claims have been cancelled. Thus, claims (1-18) are pending in the instant application.

## **I. REJECTIONS BASED ON PRIOR ART**

### **Claim Rejections - 35 USC § 102**

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 6, 10, 15** are rejected under 35 U.S.C. 102(b) as being anticipated by Ofek (US 5,901,327).

3. As per **claims 1 and 10**, Ofek discloses “A method/(computer software) of using a local storage device to read desired data while the data is being stored on a remote storage device using the cache of the local storage device in connection with transferring chunks of data from the local storage device to the remote storage device, the method comprising:” [With respect to this limitation, Ofek discloses “a system and method for automatically providing and maintaining a copy or mirror of data stored at a location remote from the main or primary data storage device” (Column 1, lines 15-19) wherein “data is retrieved from a remote device through the host data processing system” (Column 4, lines 55-56) and further explains that “the host 12 writes data to and reads data from the primary data storage system 14” (column 4, lines 62-63). Ofek also teaches; “The host central processing unit 212

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can also be provided with optional host remote mirroring (RM) software 213 so that the data processing system can be configured and monitored from a user interface of the host central processing unit. Host application programs can also interface with the remote mirroring facility of the data storage systems 214, 246 via the optional host remote mirroring (RM) software 213” (Column 10, lines 2-9). Ofek further discloses having a semi-synchronous mode in which “when the data storage system containing the primary (R1) volume has valid data in cache destined for a secondary (R2) volume, a link adapter transfers data via an available link path to the cache in the data storage system containing the secondary (R2) volume. This data transfer occurs while the data storage system containing the primary (R1) volume continues to perform additional channel commands” (Column 13, lines 28-67) wherein these channels commands are satisfied from cache in the local device if the data is in cache (Column 14, lines 1-65)] “if the desired data is entirely in the cache of the local storage device, the local storage device returning the data from the cache;” [With respect to this limitation, Ofek discloses that during a read access, “the channel adapter accesses the cache. If the data requested by the host is not in the cache, then the data is fetched by a disk adapter from disk storage in the data storage system, and loaded into the cache” (Column 14, lines 28-31)] “and if the desired data is not entirely in a cache of the local storage device, reading data from the remote storage device to the local storage device and the local storage device merging the data from the remote storage device with data from the cache of the local storage device at the local storage device” [With respect to this limitation, Ofek teaches that if data is not available in a local/primary volume, “a request for data access to a primary (R1) volume can be satisfied by obtaining the requested data from the

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secondary volume (R2) in the remote data storage system” (Column 14, lines 43-48). Ofek further explains maintaining log files which “may contain different version of data written to the same location or track in the dataset” (Column 29, lines 53-54) wherein “the log file is used to recover the data file by applying to the data file the changes recorded in the log file” (Column 30, lines 41-44) as “the primary data storage system performs automatic recovery by copying the secondary volume to the primary volume” (Column 30, lines 48-50)].

4. As per claims 6 and 15, Ofek teaches “A method, according to claims 1 and 10,” [See rejection to claims 1 and 10 above] “wherein the data from the local storage area is merged on top of data from the remote storage area” [Ofek teaches this concept as having an “overwrite cache option” wherein “every single update to a record of a primary volume is not necessarily transmitted to the secondary volume, then a new version will overwrite this pending record in cache” (Column 39, lines 45-52) and also teaches that “Should one volume in the remote mirrored pair fail, the data storage system automatically uses the other volume without interruption” as “to perform maintenance activity on a remotely mirrored volume, the primary volume tracks all updates to its secondary volume and copies the updated tracks to the other volume” (Column 24, lines 48-67)].

**Claim Rejections - 35 USC § 103**

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 2, 7-9, 11 and 16-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ofek (US 5,901,327) in view of Pong et al. (US 6,880,045).

7. As per **claims 2 and 11**, Ofek discloses “A method, according to claims 1 and 10,” [See rejection to claims 1 and 10 above] and also teaches [maintaining log files which “may contain different version of data written to the same location or track in the dataset” (Column 29, lines 53-54) wherein “the log file is used to recover the data file by applying to the data file the changes recorded in the log file” (Column 30, lines 41-44) as “the primary data storage system performs automatic recovery by copying the secondary volume to the primary volume” (Column 30, lines 48-50)] as having a temporary storage to keep data updates but fails to disclose expressly “prior to reading data from the remote storage device to the local storage device, creating a temporary storage area at the local storage device if there is data from the local storage device that is to be read.”

Pong teaches the concept of “prior to reading data from the remote storage device to the local storage device, creating a temporary storage area at the local storage device if there is data from the local storage device that is to be read” as [having a multi-processor computer system in which “when a node requires a copy of the memory block, it requests the memory block from its local, private cache. If the data is found, the memory access is resolved locally. Otherwise, a remote memory access is performed to the home node” (Column 1, lines 44-48); and further explains having a “requesting node 200” and a “home node 300” wherein “the requesting and home nodes have the same specified values in memory locations A, B, C. After an update it is possible that the local cache of the requesting node, may have the most recent values of location A, B and C” then “the home node has stale data copies in the

home memory” so “the new values for locations A, B and C” are written to “a temporary buffer in the home node” wherein “the home node SCU (system control unit)” copies “the new values from the temporary buffer to the actual memory location for A, B and C in the memory” (Column 4, lines 1-25)].

Ofek (US 5,901,327) and Pong et al. (US 6,880,045) are analogous art because they are from the same field of endeavor of computer memory backup/accessing/control while maintaining data coherency.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the data backup/retrieval as taught by Ofek and further use a temporary memory area in addition to a cache to store data temporarily before merging/transferring this data to a main memory as taught by Pong.

The motivation for doing so would have been because Pong discloses that using a temporary memory buffer in addition to a cache to store data temporarily before merging/transferring this data to a main memory [prevents data loss and maintains coherent data in a memory system (Column 3, lines 3-6) as “The old values of the affected memory locations of the home memory 312 are then copied into the temporary buffer 315 as indicated by arrow 256 to prevent their loss in case of a failure before the transaction is completed” (Figures 2, 3 and Column 4, lines 52-58); maintaining data coherency].

Therefore it would have been obvious to combine Pong et al. (US 6,880,045) and Ofek (US 5,901,327) to obtain the invention as specified in claims 2 and 11.

8. As per claims 7 and 16, Ofek discloses “A method, according to claims 1 and 10,” [See rejection to claims 1 and 10 above] and also teaches having a remote storage comprising a

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secondary data storage controller in which [**“The secondary data storage system controller 44 also includes cache memory 64 which receives data from channel adapter 54 and disk adapter 42, as well as disk adapter 66 which controls writing data to and from secondary storage device 48” (Column 6, lines 44-48)**] but fails to disclose expressly; “the remote storage device allocating a temporary storage area in response to data to be read being stored in a cache slot of the remote storage device.”

Pong discloses the concept of “allocating a temporary storage area in response to data to be read being stored in a cache slot of the remote storage device” as [**having a multi-processor computer system in which “when a node requires a copy of the memory block, it requests the memory block from its local, private cache. If the data is found, the memory access is resolved locally. Otherwise, a remote memory access is performed to the home node” (Column 1, lines 44-48); and explains having a “requesting node 200” and a “home node 300” wherein “the requesting and home nodes have the same specified values in memory locations A, B, C. After an update it is possible that the local cache of the requesting node, may have the most recent values of location A, B and C” then “the home node has stale data copies in the home memory” so “the new values for locations A, B and C” are written to “a temporary buffer in the home node” wherein “the home node SCU (system control unit)” copies “the new values from the temporary buffer to the actual memory location for A, B and C in the memory” (Column 4, lines 1-25)**].

Ofek (US 5,901,327) and Pong et al. (US 6,880,045) are analogous art because they are from the same field of endeavor of computer memory backup/accessing/control while maintaining data coherency.



At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the data backup/retrieval as taught by Ofek and further use a temporary memory area in addition to a cache to store data temporarily before merging/transferring this data to a main memory as taught by Pong.

The motivation for doing so would have been because Pong discloses that using a temporary memory buffer in addition to a cache to store data temporarily before merging/transferring this data to a main memory **prevents data loss and maintains coherent data in a memory system (Column 3, lines 3-6) as “The old values of the affected memory locations of the home memory 312 are then copied into the temporary buffer 315 as indicated by arrow 256 to prevent their loss in case of a failure before the transaction is completed” (Figures 2, 3 and Column 4, lines 52-58); maintaining data coherency].**

Therefore it would have been obvious to combine Pong et al. (US 6,880,045) and Ofek (US 5,901,327) to obtain the invention as specified in claims 7 and 16.

9. As per claims 8 and 17, the combination of Ofek and Pong discloses “A method, according to claims 7 and 16,” [See rejection to claims 7 and 16 above] “further comprising: reading data from the disk of the remote storage area into the temporary storage area;” [With respect to this limitation, Pong discloses that when a backup operation is required “The old values of the affected memory locations of the home memory 312 are then copied into the temporary buffer 315 as indicated by arrow 256 to prevent their loss in case of a failure before the transaction is completed” (Column 4, lines 52-68)] “and merging the data to be read stored in the cache slot with data from a disk in the temporary storage area” [With respect to this limitation, Pong discloses “After the new values are written into the home node

memory 312, the home node 300, acknowledges with an "ack" signal as indicated by arrow 274 that all the new values have been successfully captured. Upon receiving the acknowledgement, the receiving node will issue a "request-to-commit" request as indicated by arrow 276. Finally, the home node SCU 310 acknowledges with a "commit" message along arrow 278 to indicate that the transaction has been completed" (Column 5, lines 3-11); as indicating that data has been merged].

10. As per claims 9 and 18, the combination of Ofek and Pong discloses "A method, according to claims 7 and 16 above," [See rejection to claims 7 and 16 above] "further comprising: prior to the remote storage area determining if there is data to be read stored in a cache slot of the remote storage device, the remote storage device writing at least a portion of the data from at least one cache slot of the remote storage device to a disk of the remote storage device" [Ofek teaches this concept "The secondary data storage system controller 44 also includes cache memory 64 which receives data from channel adapter 54 and disk adapter 42, as well as a disk adapter 66 which controls writing data to and from secondary storage device 48" (Column 6, lines 44-48) as having a cache for temporary data storage before writing data to disk. Pong further discloses this concept as "The SCU (system control unit) 210 further contains a cache flushing engine (CFE) 220, shown in FIG. 2" (See figure 2 and Column 3, lines 53-54) as having means for flushing data from cache to a remote or "home memory"]].

11. Claims 3-5 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ofek (US 5,901,327) and Pong et al. (US 6,880,045) as applied to claims 2, 7-9, 11 and 16-18 above, and further in view of Bodnar (US 6,012,063).

12. As per **claims 3 and 12**, the combination of Ofek and Pong discloses “A method, according to claims 2 and 11,” [See rejection to claims 2 and 11 above] but fails to disclose expressly that “the temporary storage area is a scratch slot.”

Bodnar teaches having a “temporary storage area” which “is a scratch slot” as [**“The volatile memory is a *scratch* memory, for storing temporary computation results” (Column 2, lines 13-14) and explains that this scratch memory is used “for providing work space for the operating system and applications” (Column 2, lines 15-16)].**

Ofek (US 5,901,327), Pong et al. (US 6,880,045) and Bodnar (US 6,012,063) are analogous art because they are from the same field of endeavor of computer memory backup/accessing/control/data transfers while maintaining data coherency.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the data backup/retrieval as taught by Ofek, use a temporary memory area in addition to a cache to store data temporarily before merging/transferring this data to a main memory as taught by Pong and further make this temporary memory area be “a scratch” slot as taught by Bodnar.

The motivation for doing so would have been because Bodnar teaches that temporarily saving data to a memory scratch area [**minimizes the number of data transfers in a computer system; therefore, speeding overall system execution time (Column 1, lines 56-63) as a temporary scratch area is used “for providing work space for the operating system and applications” (Column 2, lines 15-16)].**

Therefore it would have been obvious to combine Bodnar (US 6,012,063), Pong et al. (US 6,880,045) and Ofek (US 5,901,327) to obtain the invention as specified in claims 3 and 12.

13. As per **claims 4 and 13**, the combination of Ofek, Pong and Bodnar discloses “A method, according to claims 3 and 12,” [See rejection to claims 3 and 12 above] “further comprising: prior to creating a temporary storage area, locking slots of the local storage device that correspond to data from the local storage device that is to be used” [With respect to this limitation, Pong discloses that “a transaction performed on global data structures consists of a request phase, an execution phase and finally a commit phase” wherein “the LOCK operation defines where the original system state is and where the request phase begins” (Column 2, lines 41-43 and 48-50) as locking memory slots every time data is updated or moved].

14. As per **claims 5 and 14**, the combination of Ofek, Pong and Bodnar discloses “A method, according to claims 4 and 13,” [See rejection to claims 4 and 13 above] “further comprising: after merging the data, unlocking the slots of the local storage device that correspond to of data from the local storage device that is to be read” [With respect to this limitation, Pong discloses that “a transaction performed on global data structures consists of a request phase, an execution phase and finally a commit phase” wherein “the UNLOCK operation indicates where the update operations must commit. Specifically, before the LOCK is released, the home memory of A, B and C is either completely updated with the new values, or is unchanged” (Column 2, lines 41-43 and 50-54) as releasing a lock when data merged/overwritten].

## **II. ACKNOWLEDGMENT OF ISSUES RAISED BY THE APPLICANT**

### **Response to Amendment**

15. Applicant's arguments filed on June 8, 2006 have been fully considered but they are not deemed to be persuasive and, as required by M.P.E.P. § 707.07(f), a response to these arguments appears below.

## **III. ARGUMENTS CONCERNING PRIOR ART REJECTIONS**

16. It is the Examiner's position that due to breath of the claim language, Ofek's disclosure meets all of the limitations required by the claims

### **1<sup>st</sup> POINT OF ARGUMENT:**

17. Regarding Applicant's remark that Ofek does not teach merging data from a remote device with data from the cache of the local device because in the abnormal condition that the primary (local) storage device having failed, there would be no data in the cache of the local storage device to be merged with the data from the remote storage device, it is the Examiner's position that Ofek's disclosure meets this limitation. **[Ofek discloses "abnormal condition of the data being entirely absent form the data storage system due to a disk drive failure" (Column 14, lines 35-50)]** Applicant should note that a disk drive failure comprises the failure of a particular disk containing data to be used and does not comprise a cache failure; therefore, the cache may still maintain data from other disk drives in the local volume. Applicant should also note that **[Furthermore, Ofek discloses an embodiment in which "in the automatic mode, if the data is not available in cache during a read operation, then the data storage system reads the data from the primary (R1) volume. If a data check occurs on this device, the data storage system automatically reads the data from the secondary volume" (Column**

**24, lines 48-67) wherein “another background task running on the data storage system such as in the service processor or storage system controller constantly checks invalid track bits on each data storage device, and if a bit is found to be set, the copy task is invoked to copy from the known good device to the device with the invalid track set” (Column 8, line 58 – Column 9, line 12)]. In the automatic mode, the cache may have data which comprises an invalid track, therefore, needing data to be loaded/merged from a secondary volume having valid tracks, as specified in the claims. [Ofek also discloses having an “overwrite cache option” wherein “every single update to a record of a primary volume is not necessarily transmitted to the secondary volume, then a new version will overwrite this pending record in cache” (Column 39, lines 45-52) as “to perform maintenance activity on a remotely mirrored volume, the primary volume tracks all updates to its secondary volume and copies the updated tracks to the other volume” (Column 24, lines 48-67)]. Therefore, Ofek teaches merging data from a remote device with data from the cache of the local device.**

**2<sup>ND</sup> POINT OF ARGUMENT:**

18. Regarding Applicant's remark that Ofek does not disclose obtaining data from a local device while transferring data from the local storage device to a remote storage device, it is the Examiner's position that Ofek discloses this concept as **[a semi-synchronous mode in which “when the data storage system containing the primary (R1) volume has valid data in cache destined for a secondary (R2) volume, a link adapter transfers data via an available link path to the cache in the data storage system containing the secondary (R2) volume. This data transfer occurs while the data storage system containing the primary (R1) volume continues to perform additional channel commands” (Column 13, lines 28-67) wherein**

these channels commands are satisfied from cache in the local device (Column 14, lines 28-34)]. Therefore, while data updates are being transferred from primary (local) storage device to secondary (remote) storage device, other “channel commands” or host accesses are still made to the primary storage device.

**3<sup>rd</sup> POINT OF ARGUMENT:**

19. Regarding Applicant's remark that Ofek discloses that if data is not in cache of the local storage device, it is read from the disk of the local storage device and that the invention discloses that if data is not in cache, then it is read from the remote device, it is the Examiner's position that Ofek discloses this limitation as **[Ofek teaches that if data is not available in a local/primary volume, “a request for data access to a primary (R1) volume can be satisfied by obtaining the requested data from the secondary volume (R2) in the remote data storage system” (Column 14, lines 43-48); therefore, when data is not available in the cache of the local device, it is loaded from the remote storage device to the cache of the local storage device. Ofek also discloses “in the automatic mode, if the data is not available in cache during a read operation, then the data storage system reads the data from the primary (R1) volume. If a data check occurs on this device, the data storage system automatically reads the data from the secondary volume” (Column 24, lines 48-67) wherein “another background task running on the data storage system such as in the service processor or storage system controller constantly checks invalid track bits on each data storage device, and if a bit is found to be set, the copy task is invoked to copy from the known good device to the device with the invalid track set” (Column 8, line 58 – Column 9, line 12). Therefore,**

**in the automatic mode, when the cache has invalid tracks, data is loaded/merged from a secondary volume having valid tracks, as specified in the claims].**

20. All arguments by the applicant are believed to be covered in the body of the office action or in the above remarks and thus, this action constitutes a complete response to the issues raised in the remarks dated June 8, 2006.

#### **IV. CLOSING COMMENTS**

##### **Conclusion**

21. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

#### **V. STATUS OF CLAIMS IN THE APPLICATION**

22. The following is a summary of the treatment and status of all claims in the application as recommended by M.P.E.P. § 707.07(i):



**CLAIMS REJECTED IN THE APPLICATION**

23. Per the instant office action, claims **1-18** have received a second action on the merits and are subject of a final rejection.
24. For at least the above reasons it is the examiner's position that the applicant's claims are not in condition for allowance.

**VI. DIRECTION OF FUTURE CORRESPONDENCES**

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yaima Campos whose telephone number is (571) 272-1232 and email address is [Yaima.Campos@uspto.gov](mailto:Yaima.Campos@uspto.gov). The examiner can normally be reached on Monday to Friday 8:30 AM to 5:00 PM.

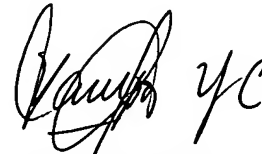
**IMPORTANT NOTE**

26. If attempts to reach the above noted Examiner by telephone or email are unsuccessful, the Examiner's supervisor, Mr. Sanjiv Shah can be reached on (571) 272-4098.
27. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions

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on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 8, 2006



Yaima Campos  
Examiner  
Art Unit 2185



**SANJIV SHAH**  
**PRIMARY EXAMINER**